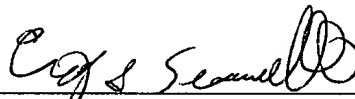


Remarks

Claims 5 and 10-17 have been rewritten. The changes are shown in the Appendix with brackets for deleted matter and underlining for added matter.

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If for any reason, the Examiner is unable to allow the application in the next Office Action and believes that an interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned attorneys at (312) 321-4200.

Respectfully submitted,



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APPENDIX

5. (amended) The method of Claim [1] 18 wherein step (a1) comprises pre-distorting said [at least one] waveform as a function of a non-linear characteristic of a device.

10. (amended) The method of Claim [1] 18 wherein step (a1) comprises:

- (1) pre-distorting a plurality of said waveforms; and
- (2) transmitting each of said plurality of said waveforms from a different one of a plurality of transducer elements in a single transmit event.

11. The method of Claim [1] 18 wherein:

step (a1) comprises transmitting first and second ultrasonic pulses, the second ultrasonic pulse associated with a substantially opposite polarity than the first ultrasonic pulse, the first and second ultrasonic pulses pre-distorted as a function of [the] a non-linear characteristic; and

step (b) comprises:

(b1) receiving first and second ultrasonic receive pulses, each receive pulse associated with a respective one of the transmit pulses, and each receive pulse comprising a respective fundamental receive component and a respective harmonic receive component; and

(b2) combining at least two of the receive pulses to form a composite harmonic signal.

12. (amended) The method of Claim [1] 18 wherein:

step (a1) comprises transmitting a set of ultrasonic transmit pulses into a region, each transmit pulse comprising respective first and second transmit components, the first transmit components associated with selected ones of the transmit pulses modulated at a fundamental ultrasonic frequency and being out of phase by a phase difference, the second transmit components associated with said selected ones of the transmit pulses being substantially in

phase, at least one of said components pre-distorted as a function of [the] a non-linear characteristic; and

step (b) comprises:

(b1) receiving a plurality of ultrasonic receive pulses from the region, each receive pulse associated with a respective one of the transmit pulses, and each receive pulse comprising a respective fundamental receive component and a respective harmonic receive component; and

(b2) combining at least two of the receive pulses to form a composite signal, said phase difference effective to cause the fundamental receive components to destructively interfere to a different extent than the harmonic receive components in the summing step.

13. (amended) The method of Claim 12 wherein step (a1) comprises transmitting a set of unipolar ultrasonic transmit pulses.

14. (amended) The method of Claim [1] 18 wherein step (a1) comprises:

(1) generating a set of fundamental waveforms associated with a first apodization, first delays and first pulse shapes;

(2) generating a set of second harmonic waveforms associated with the first delays, a second pulse shape proportional to the first pulse shape, and a second apodization proportional to the first apodization; and

(3) combining the set of fundamental waveforms and the second of second harmonic waveforms.

15. (amended) The method of Claim [1] 18 wherein step (a1) comprises generating a set of pre-distorted waveforms, each of said pre-distorted waveforms comprising a fundamental and a harmonic component, said set of pre-distorted waveforms associated with a different apodization for said fundamental component than for said harmonic component.

16. (amended) The method of Claim [1] 18 wherein step (a1) comprises adding a second harmonic component.

17. (amended) The method of Claim [1] 18 wherein step (a1) comprises transmitting [a] the waveform comprising a pulse spatially defined by a first zero value adjacent to a first non-zero value of said pulse and a successive second zero value adjacent to a second non-zero value of said pulse, wherein a peak amplitude of said pulse is a first distance from said first zero value, said first distance displaced from half a distance between said first and second zero values by at least 1% of said distance between said first and second zero values.

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